UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/429,470	10/28/1999	HONG HEATHER YU	9432-000089	5971

7590 06/10/2005		EXAMINER	
HARNESS DICKEY & PIERCE PLC		CALLAHAN, PAUL E	
P O BOX 828			
BLOOMFIELD HILLS, MI 48303	ART UNIT	PAPER NUMBER	
	2137		

DATE MAILED: 06/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>09 May 2005</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-33* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *7-11,14,15,20-22 and 24-28* is/are allowed.

6)☐ Claim(s) *1,3-6,12,13,16-19,23 and 29-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 February 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5-9-2005 has been entered.

2.   Claims 1, and 3-33 were pending in this application at the time of the previous Office Action. The claims are now pending, and have been examined.

Response to Arguments

3.   Applicant's arguments filed 2-7-2005 have been fully considered but they are not persuasive.

The applicant asserts that the rejections of claims 1-6, 12-13, 16,19, and 23 under 102(b) as being clearly anticipated by Powell '392, and the rejections of claims 17, 18, under 103(a) as obvious over Powell '392 in view of Cullen '290, are improper because both represent non-analogous art to the instant invention. The applicant states: "In contrast to the claimed invention, Powell and Cullen authenticate images, not graphs as in independent claims 1, 18, and 29. Powell, for example has 249 references to "image" and Cullen has 113 references to image."

The applicant attempts to distinguish graphs from image data by stating: "Applicants also clearly state the difference between "images" and "graphs." The [sic] most graphs have one bit per pixel, whereas most images have multiple bits per pixel to indicate varying shades and colors. In other words, a minimal alteration of bits in a binary graph can result in a substantial change in the appearance and content of the graph. For example, a useful application for document copying and copyright protection is to provide different levels of access to different users. In such a case it would be very desirable to detect alteration of the original document as well as localize the alteration on the object level. It is more important to detect a substantive change in a document such as "10% to 70%", than it is to detect an increase in the size of an arrow by one pixel."

The Examiner disputes the Applicant's assertion that most graphs are represented in binary pixel formats and notes that such is not taught by the prior art where graphical representations of data utilizing color display is common. The Applicant is using a definition of the term "graph" that is overly narrow.

To counter the applicant's attempt to distinguish the claims from the teaching of the prior art based on the difference between object level authentication of an image and bit pixel authentication of a graph, the Examiner refers the applicant to pages 11-13 of the specification where the algorithm contemplated for use in the invention to perform content-based authentication of graphed data is described on page 14 as an image authentication algorithm "...discussed in the context of image authentication in the article "Fragile imperceptible digital watermark with privacy control" C.W. Wu et al. The

term "image" is found over 35 times in the article. Both the Powell and Cullen references

represent analogous prior art to the instant invention since they are in the field of

watermarking of digital data in the case of Powell, and are admitted prior art in the case

of Cullen.

The Applicant challenges the rejections of claim 1, 18 and 29 as anticipated by

Powell on the basis that Powell does not contemplate the authentication of a graph. The

Examiner counters by noting that claim 1 does not claim authentication of a graph, but

instead is directed towards authentication of graphical data. Powell teaches the process

of authentication of a graph or graphical data at col. 4 lines 1-5 and col. 5 lines 40-45.

The applicant asserts that the claims may be distinguished from the teachings of

Powell because "Powell has no method for creating two (object and pixcel [sic]) levels of

authentication which is a heart of Applicant's invention. Yet such a joint authentication

was indeed taught by Powell at col. 2 lines 48-67 and col. 3 lines 30-45.

Drawings

4.   The drawings were received on 2-7-2005. These drawings are approved.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6.   Claim 1, 3-6, 12, 13, 16, 19, 23, and 29-33 are rejected under 35 U.S.C. 102(b)

as being clearly anticipated by Powell et al. US 6,678,392 B2.

As per claim 1, Powell teaches a computerized method (col. 3 lines 7-10) for

authenticating an electronic file (abstract) comprising the steps of: receiving an

electronic file and creating an object level representation of the graphical content (col. 2

lines 48-67), and adding authentication information to the electronic file based on the

object level representation of the graphical content (col. 2 lines 48-67). Powell teaches

the graphical content as having one bit per values (col. 3 lines 30-45: "grey scale

image").

As per claim 3, Powell teaches converting the graphical content into a symbolic

representation of the graphical content (col. 2 lines 48-67).

As per claim 4, Powell teaches defining nodes of the graphical content with

specification symbols (col. 2 lines 48-56).

As per claim 5, Powell teaches defining the shape, size, color, and position of the

nodes in (col. 2 lines 48-67).

As per claim 6, Powell teaches defining conditions and familial relationships

between the nodes. (col. 6 lines 45-65, col. 3 lines 30-35, col. 2 lines 48-67).

As per claim 12, Powell teaches the step of authenticating the graphical content at the pixel level (col. 7 lines 35-50).

As per claims 13, 16, 19, and 23, Powell teaches the step of adding visible and or invisible authentication information to the graphical content (col. 2 lines 47-67).

As per claims 29-33, these claims represent the apparatus carrying out the method of claims 1 and 18 and are therefore rejected on the same basis as those claims.

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8.   Claims 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powell, Cullen et al. (US 5,335,290), and John Clarkson, "Converting Excel 97 Data to HTML," Microsoft Excel 97 Technical Articles, Microsoft Corp. July 1998, pages 1-3.

As per claim 17, Powell does not teach partitioning an electronic file into graphical content and textual content. However Cullen does teach this step. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate this step into the system of Powell. The motivation to combine the teachings for these two references is found in Powell col. 1: lines 34-40 where he discusses the need for image authors to audit the usage of their works when published as parts of electronic documents.

As per claim 18, Powell teaches authentication of an image at a pixel level and an object level (col. 7 lines 1-16). However, Powell does not explicitly teach transmitting the authenticated image or that the image is a binary graph. However, Clarkson, "Converting Excel 97 Data to HTML," Microsoft Excel 97 Technical Articles, Microsoft Corp. July 1998, does teach the step of transmitting a document or image on page 1 under the section "The Internet Assistant Wizard Add-In" the function of the Add-In is described as "creating a web page from worksheet data or a chart" and page 2 under the section "Syntax, Table 1. HTMLconvert Named Arguments" the argument EmailFullPage is defined, which clearly indicates Excel 97's capability to email a chart to a recipient. The terms chart and graph are used synonymously in the art. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate these features of Clarkson into the method of Powell. It would have been advantageous to do so as transmission of documents such as graphs and charts implies utilization of the Internet for commercial sale of this data, and utilization of the

authentication method of Powell to authenticate binary graph data would increase the

security and hence marketability of the data.

The combination of Powell, Cullen, and Clarkson does not teach encrypting the

graph prior to transmission. However, Official Notice may be taken that the encryption of

graphs and graphed data prior to transmission is old and well known in the art.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the

invention to incorporate this feature into the system of Powell and Clarkson. It would

have been desirable to do so as this would increase the utility of the system by allowing

for the encryption of data in this additional format.

Allowable Subject Matter

9.   Claims 7-11, 14, 15, 20-22, and 24-28 are allowed.

10.   The following is a statement of reasons for the indication of allowable subject

matter:

As per claim group 7-11, and 26, the prior art does not teach the limitations of

claim 1 and sequential authentication of an object level representation by a textual

authentication algorithm, as the Examiner understands the Applicant's use of the terms.

As per claims 14 and 15, the prior art does not teach the limitations of claim 1

and where the visible authentication data is a bounding box or a bar code.

As per claims 20-22, 24, 25, 27, and 28, the prior art does not teach the

limitations of claims 19 and 23, and further operating on a truncated image in the

manner of the applicant as found in claims 20 and 24.

Conclusion

11.   The prior made of record and not relied upon is considered pertinent to

applicant's disclosure.

Katsurada   5,191,438

12.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Paul E. Callahan whose telephone number is (571) 272-

3869. The examiner can normally be reached on M-F from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Andrew Caldwell, can be reached on (571) 272-3869. The fax phone

number for the organization where this application or proceeding is assigned is: (703)

872-9306. Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is (703) 305-

3900.

6-4-2004

Paul Callahan